

Appl. No. 10/048,084
 Atty Docket No. AA414M
 Amdt. Dated September 17, 2003
 Reply to Office Action of March 17, 2003

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) A hair conditioning composition comprising by weight:

(a) from about 0.001% to about 2% of a hydrophobically modified cellulose ether comprising a hydrophilic cellulose backbone and a hydrophobic substitution group; the hydrophilic cellulose backbone being water soluble and selected from the group consisting of methyl cellulose, hydroxymethyl cellulose, hydroxyethyl cellulose, hydroxyethyl ethylcellulose, hydroxypropyl cellulose, hydroxypropyl methylcellulose, hydroxybutyl cellulose, and mixtures thereof; and having grafted thereto the hydrophobic substitution group to render the hydrophobically modified cellulose ether to have less than 1% water solubility, the hydrophobic substitution group selected from a straight or branched chain alkyl group of from about 10 to about 22 carbons; wherein the ratio of the hydrophilic groups in the hydrophilic cellulose backbone to the hydrophobic substitution group being from about 2:1 to about 1000:1;

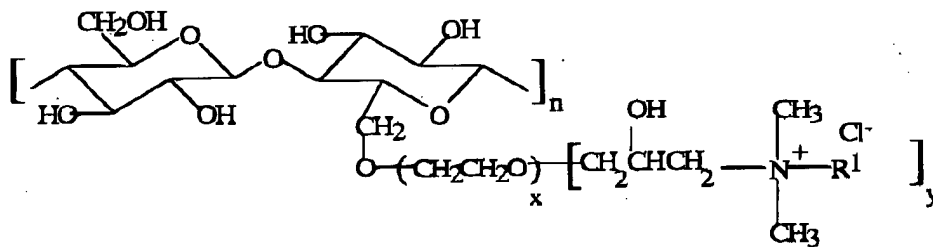
(b) from about 0.1% to about 15% of a high melting point fatty compound having a melting point of 25°C or higher;

(c) from about 0.1% to about 10% of a cationic conditioning agent having saturated alkyl groups; and

(d) an aqueous carrier; and

(e) from about 0.001% to about 5% of a cationic polymer selected from the group consisting of:

a hydrophobically modified cationic cellulose having the following formula:



wherein R¹ is an alkyl having from about 8 to about 22 carbons, n is an integer from 1 to about 10,000; x is 0 or an integer from 1 to about 6; and y is the level of cationic substitution from 0.1 to 1.0;

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a copolymer of hydrophilic-cellulose units and diallyldimethyl ammonium chloride units wherein the ratio of the number of hydrophilic-cellulose units to the diallyldimethyl ammonium chloride units is from about 1:100 to about 10:1, and wherein the molecular weight of the copolymer is from about 10,000 to about 250,000;
and mixtures thereof.

2. (currently amended) A hair conditioning composition comprising by weight:

(a) from about 0.001% to about 2% of a hydrophobically modified cellulose ether comprising a hydrophilic cellulose backbone and a hydrophobic substitution group; the hydrophilic cellulose backbone being water soluble and selected from the group consisting of methyl cellulose, hydroxymethyl cellulose, hydroxyethyl cellulose, hydroxyethyl ethylcellulose, hydroxypropyl cellulose, hydroxypropyl methylcellulose, hydroxybutyl cellulose, and mixtures thereof; and having grafted thereto the hydrophobic substitution group to render the hydrophobically modified cellulose ether to have less than 1% water solubility, the hydrophobic substitution group selected from a straight or branched chain alkyl group of from about 10 to about 22 carbons; wherein the ratio of the hydrophilic groups in the hydrophilic cellulose backbone to the hydrophobic substitution group being from about 2:1 to about 1000:1;

(b) from about 0.1% to about 15% of a high melting point fatty compound having a melting point of 25°C or higher;

(c) from about 0.1% to about 10% of a cationic conditioning agent having saturated alkyl groups; and

(d) an aqueous carrier; and ~~The hair conditioning composition according to Claim 1 comprising from about 0.1% to about 0.5% of the hydrophobically modified cellulose ether.~~

(e) a polypropylene glycol selected from the group consisting of a single-polypropylene glycol-chain segment polymer, a multi-polypropylene glycol-chain segment polymer, and mixtures thereof,

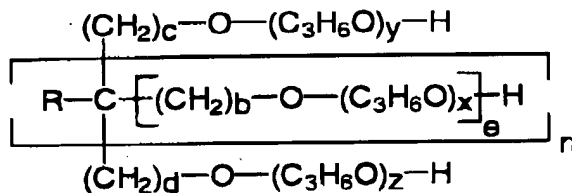
wherein the single-polypropylene glycol-chain segment polymer is of the following formula:



wherein a is a value from about 20 to about 100, and

wherein the multi-polypropylene glycol-chain segment polymer is of the following formula:

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wherein n is a value from about 0 to about 10, wherein each R is independently selected from the group consisting of H , and C_1 - C_{30} alkyl, wherein each b is independently a value from about 0 to about 2, wherein c and d are independently a value from about 0 to about 2, wherein $b + c + d$ is at least about 2, wherein each e is independently a value of 0 or 1, wherein each x , y , and z is independently a value of from about 7 to about 100, and wherein $x + y + z$ is greater than about 20.

3. (currently amended) A hair conditioning composition comprising by weight:

(a) from about 0.001% to about 2% of a hydrophobically modified cellulose ether comprising a hydrophilic cellulose backbone and a hydrophobic substitution group; the hydrophilic cellulose backbone being water soluble and selected from the group consisting of methyl cellulose, hydroxymethyl cellulose, hydroxyethyl cellulose, hydroxyethyl ethylcellulose, hydroxypropyl cellulose, hydroxypropyl methylcellulose, hydroxybutyl cellulose, and mixtures thereof; and having grafted thereto the hydrophobic substitution group to render the hydrophobically modified cellulose ether to have less than 1% water solubility, the hydrophobic substitution group selected from a straight or branched chain alkyl group of from about 10 to about 22 carbons; wherein the ratio of the hydrophilic groups in the hydrophilic cellulose backbone to the hydrophobic substitution group being from about 2:1 to about 1000:1;

(b) from about 0.1% to about 15% of a high melting point fatty compound having a melting point of 25°C or higher;

(c) from about 0.55% to about 7% of the cationic conditioning agent; the cationic conditioning agent comprising:

an amidoamine having the following general formula:



wherein R^1 is a residue of C_{11} to C_{24} fatty acids, R^2 is a C_1 to C_4 alkyl, and m is an integer from 1 to 4; and an acid selected from the group consisting of L-glutamic acid, lactic acid, hydrochloric acid, malic acid, succinic acid, acetic acid, fumaric acid, L-glutamic acid hydrochloride, tartaric acid, and mixtures thereof; and

(d) an aqueous carrier.

The hair conditioning composition according to Claim 1 wherein the hydrophobically modified cellulose ether has a cetyl group substitution of about 0.4% to about 0.65% by weight.

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4. (canceled)

5. (canceled)

6. (original) The hair conditioning composition according to Claim 1 further comprising a rheology modifier selected from the group consisting of methyl cellulose, hydroxymethyl cellulose, hydroxyethyl cellulose, hydroxyethyl ethylcellulose, hydroxypropyl cellulose, hydroxypropyl methylcellulose, hydroxybutyl cellulose, and mixtures thereof.

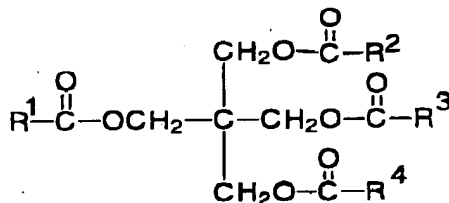
7. (canceled)

8. (original) The hair conditioning composition according to Claim 1 further comprising by weight from about 0.1% to about 10% of a low melting point oil having a melting point of less than 25°C.

9. (original) The hair conditioning composition according to Claim 8 wherein the low melting point oil is an unsaturated fatty alcohol.

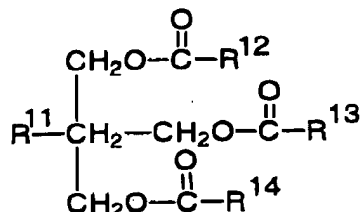
10. (original) The hair conditioning composition according to Claim 8 wherein the low melting point oil is selected from the group consisting of:

(a) pentaerythritol ester oils having a molecular weight of at least about 800, and having the following formula:



wherein R¹, R², R³, and R⁴, independently, are branched, straight, saturated, or unsaturated alkyl, aryl, and alkylaryl groups having from 1 to about 30 carbons;

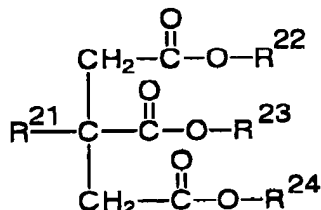
(b) trimethylol ester oils having a molecular weight of at least about 800, and having the following formula:

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wherein R^{11} is an alkyl group having from 1 to about 30 carbons, and R^{12} , R^{13} , and R^{14} , independently, are branched, straight, saturated, or unsaturated alkyl, aryl, and alkylaryl groups having from 1 to about 30 carbons;

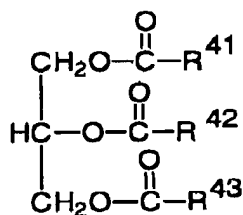
(c) poly α -olefin oils derived from 1-alkene monomers having from about 6 to about 16 carbons, the poly α -olefin oils having a viscosity of from about 1 to about 35,000 cst, a molecular weight of from about 200 to about 60,000, and a polydispersity of no more than about 3;

(d) citrate ester oils having a molecular weight of at least about 500, and having the following formula:



wherein R^{21} is OH or CH_3COO , and R^{22} , R^{23} , and R^{24} , independently, are branched, straight, saturated, or unsaturated alkyl, aryl, and alkylaryl groups having from 1 to about 30 carbons;

(e) glyceryl ester oils having a molecular weight of at least about 500, and having the following formula:




wherein R^{41} , R^{42} , and R^{43} , independently, are branched, straight, saturated, or unsaturated alkyl, aryl, and alkylaryl groups having from 1 to about 30 carbons; and mixtures thereof.

11. (original) The hair conditioning composition according to Claim 1 further comprising by weight from about 0.1% to about 10% of a polyethylene glycol having the formula:

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wherein n has an average value of from about 2,000 to about 14,000.

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12. (previously presented) The hair conditioning composition according to Claim 1 further comprising by weight from about 0.1% to about 20% of a cationic silicone emulsion comprising by weight of the cationic silicone emulsion from about 1% to about 20% of a cationic surfactant; and an emulsifiable amount of a silicone compound having a particle size of less than about 50 microns.
13. (previously presented) A method of preparing a hair conditioning composition according to Claim 1 comprising the steps of:
- (a) mixing the high melting point fatty compound, the cationic conditioning agent, and the aqueous carrier at a temperature of at least about 70°C;
 - (b) cooling the mixture obtained in step (a) to below about 60°C;
 - (c) adding the hydrophobically modified cellulose ether to the cooled mixture obtained in step (b); and
 - (d) mixing until a homogeneous composition is obtained.
14. (previously presented) A method of increasing hair volume by applying the hair conditioning composition according to Claim 1 to the hair.
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